

REQUEST FOR ACCESS TO AN ABANDONED APPLICATION UNDER 37 CFR 1.14

Bring completed form to:

File Information Unit
Crystal Plaza Three, Room 1D01
2021 South Clark Place
Arlington, VA
Telephone: (703) 308-2733

File Information Unit

MAR 14 2005

RECEIVED

In re Application of

Application Number

04/599,543

Filed

Oct, 18-1990

Paper No. # 22

I hereby request access under 37 CFR 1.14(a)(1)(iv) to the application file record of the above-identified ABANDONED application, which is identified in, or to which a benefit is claimed, in the following document (as shown in the attachment):

United States Patent Application Publication No. _____, page, _____ line _____.

United States Patent Number 5266683, column _____, line, _____ or

WIPO Pub. No. _____, page _____, line _____.

Related Information about Access to Pending Applications (37 CFR 1.14):

Direct access to pending applications is not available to the public but copies may be available and may be purchased from the Office of Public Records upon payment of the appropriate fee (37 CFR 1.19(b)), as follows:
For published applications that are still pending, a member of the public may obtain a copy of:

- the file contents;
- the pending application as originally filed; or
- any document in the file of the pending application.

For unpublished applications that are still pending:

- (1) If the benefit of the pending application is claimed under 35 U.S.C. 119(e), 120, 121, or 365 in another application that has: (a) issued as a U.S. patent, or (b) published as a statutory invention registration, a U.S. patent application publication, or an international patent application publication in accordance with PCT Article 21(2), a member of the public may obtain a copy of:
 - the file contents;
 - the pending application as originally filed; or
 - any document in the file of the pending application.
- (2) If the application is incorporated by reference or otherwise identified in a U.S. patent, a statutory invention registration, a U.S. patent application publication, or an international patent application publication in accordance with PCT Article 21(2), a member of the public may obtain a copy of:
 - the pending application as originally filed.


Signature

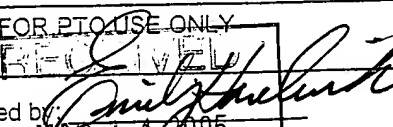
SHAHAB GHAYOUR
Typed or printed name

WOOL COFF
Registration Number, if applicable

(703) 521-1010
Telephone Number

03-14-2005

Date

FOR PTO USE ONLY	
RECEIVED	
Approved by:	
MAR 14 2005	
Unit:	F. J. U.
File Information Unit	

This collection of information is required by 37 CFR 1.14. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. BRING TO: File Information Unit, Crystal Plaza Three, Room 1D01, 2021 South Clark Place, Arlington, VA.

United States Patent [19]
Oppermann et al.



US005266683A

[11] **Patent Number:** 5,266,683
[45] **Date of Patent:** * Nov. 30, 1993

[54] **OSTEOGENIC PROTEINS**

[75] **Inventors:** Hermann Oppermann, Medway;
Engin Ozkaynak, Milford; Thangavel
Kuberasampath, Medway; David C.
Rueger, Hopkinton; Roy H. L. Pang,
Medway, all of Mass.

[73] **Assignee:** Stryker Corporation, Kalamazoo,
Mich.

[*] **Notice:** The portion of the term of this patent
subsequent to Nov. 2, 2010 has been
disclaimed.

[21] **Appl. No.:** 841,646

[22] **Filed:** Feb. 21, 1992

Related U.S. Application Data

[60] Continuation-in-part of Ser. No. 827,052, Jan. 28, 1992, Pat. No. 5,250,302, Ser. No. 579,865, Oct. 7, 1990, Pat. No. 5,108,753, Ser. No. 621,849, Dec. 4, 1990, abandoned, Ser. No. 621,988, Dec. 4, 1990, abandoned, Ser. No. 810,560, Dec. 20, 1991, abandoned, Ser. No. 569,920, Aug. 20, 1990, abandoned, Ser. No. 600,024, Oct. 18, 1990, abandoned, Ser. No. 599,543, Oct. 18, 1990, abandoned, Ser. No. 616,374, Nov. 21, 1990, Pat. No. 5,162,114, and Ser. No. 483,913, Feb. 22, 1990, Pat. No. 5,171,574, said Ser. No. 827,052, is a division of Ser. No. 179,406, Apr. 8, 1988, Pat. No. 4,968,590, said Ser. No. 579,865, is a division of Ser. No. 179,406, Apr. 8, 1988, said Ser. No. 621,849, is a division of Ser. No. 232,630, Aug. 15, 1988, abandoned, which is a continuation-in-part of Ser. No. 179,406, Aug. 15, 1988, said Ser. No. 621,988, is a division of Ser. No. 315,342, Feb. 23, 1989, Pat. No. 5,011,691, which is a continuation-in-part of Ser. No. 232,630, Feb. 23, 1989, said Ser. No. 810,560, is a continuation of Ser. No. 660,162, Feb. 22, 1991, abandoned, which is a continuation of Ser. No. 422,699, Oct. 17, 1989, abandoned, which is a continuation-in-part of Ser. No. 315,342, Oct. 17, 1989, said Ser. No. 569,920, is a continuation-in-part of Ser. No. 422,699, Oct. 17, 1989, and Ser. No. 483,913, Oct. 17, 1989, which is a continuation-in-part of Ser. No. 422,613, Oct. 17, 1989, Pat. No. 4,975,526, which is a continuation-in-part of Ser. No. 315,342, Oct. 17, 1989, said Ser. No. 600,024, is a continuation-in-part of Ser. No. 569,920, Oct. 17, 1989, said Ser. No. 599,543, is a continuation-in-part of Ser. No. 569,920, Oct. 17, 1989.

[51] **Int. Cl.⁵** A61K 37/02; C07K 5/00;
C07K 7/00; C07K 15/00
[52] **U.S. Cl.** 530/326; 530/327;
530/328; 530/350; 530/395; 530/840
[58] **Field of Search** 530/326, 327, 328, 395,
530/840, 300, 350

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,172,128 10/1979 Thiele et al. 424/95
4,294,753 10/1981 Urist 530/356
4,394,370 7/1983 Jefferies 424/15
4,434,094 2/1984 Seyedin et al. 530/356
4,455,256 6/1984 Urist 530/356
4,563,350 1/1986 Nathan et al. 424/95
4,563,489 1/1986 Urist 524/21
(List continued on next page.)

FOREIGN PATENT DOCUMENTS

069260 6/1982 European Pat. Off. .
(List continued on next page.)

OTHER PUBLICATIONS

Canalis et al., Science 210:1021-1023 (1980).
Glowacki et al., Lancet 1:959-963 (1981).
Reddi, Collagen Rel. Res. 1:209-226 (1981).
Sampath et al. Proc. Natl. Acad. Sci. USA
78:7599-7603 (1981).

(List continued on next page.)

Primary Examiner—Nathan M. Nutter

Attorney, Agent, or Firm—Testa, Hurwitz & Thibault

[57]

ABSTRACT

Disclosed are (1) osteogenic devices comprising a matrix containing substantially pure natural-sourced mammalian osteogenic protein; (2) DNA and amino acid sequences for novel polypeptide chains useful as subunits of dimeric osteogenic proteins; (3) vectors carrying sequences encoding these novel polypeptide chains and host cells transfected with these vectors; (4) methods of producing these polypeptide chains using recombinant DNA technology; (5) antibodies specific for these novel polypeptide chains; (6) osteogenic devices comprising these recombinantly produced proteins in association with an appropriate carrier matrix; and (7) methods of using the osteogenic devices to mimic the natural course of endochondral bone formation in mammals.

58 Claims, 47 Drawing Sheets